



10830118.txt
SEQUENCE LISTING

<110> GUERIN-MARCHAND, CLAUDINE
DRUILHE, PIERRE

<120> DNA SEQUENCES ENCODING PEPTIDE SEQUENCES SPECIFIC FOR
THE HEPATIC STAGES OF P. FALCIPARUM BEARING EPITOPES
CAPABLE OF STIMULATING THE T LYMPHOCYTES (as amended)

<130> 010830-118

<140> 09/900,963

<141> 2001-07-10

<150> 08/098,327

<151> 1993-11-24

<150> PCT/FR92/00104

<151> 1992-02-05

<150> FR 91 01286

<151> 1991-02-05

<160> 47

<170> PatentIn Ver. 3.3

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<223> Description of Artificial Sequence: Synthetic Formula
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Arg

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Gln

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Xaa

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 20 25 30
 Glu Leu Pro Ser Glu Asn Glu Arg Gly Tyr Tyr Ile Pro His Gln Ser
 35 40 45
 Ser Leu Pro Gln Asp Asn Arg Gly Asn Ser Arg Asp Ser Lys Glu Ile
 50 55 60
 Ser Ile Ile Glu Lys Thr Asn Arg Glu Ser Ile Thr Thr Asn Val Glu
 65 70 75 80
 Gly Arg Arg Asp Ile His Lys Gly His Leu Glu Glu Lys Lys Asp Gly
 85 90 95
 Ser Ile Lys Pro Glu Gln Lys Glu Asp Lys Ser
 100 105

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 20 25 30
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 35 40 45
 Glu Arg Gly Tyr Tyr Ile Pro His Gln Ser Ser Leu Pro Gln Asp Asn
 50 55 60
 Arg Gly Asn Ser Arg Asp Ser Lys Glu Ile Ser Ile Ile Glu Lys Thr
 65 70 75 80
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 85 90 95
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 100 105 110
 Lys Glu Asp Lys Ser
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<400> 23

Asn Ser Arg Asp Ser Lys Glu Ile Ser Ile Ile Glu Lys Thr Asn Arg
 1 5 10 15
 Glu Ser Ile Thr Thr Asn Val Glu Gly Arg Arg Asp Ile His Lys
 Page 12

Ala Glu Met Leu Lys Glu Arg
145 150

Phe Asn Ser Leu Val Lys Ser Val Gln Gln Glu Gln Gln His Asn
35 40 45

Asp Glu Leu Phe Asn Glu Leu Leu Asn Ser Val Asp Val Asn Gly Glu

1 5 10 15
 Val Lys Glu Asn Ile Leu Glu Glu Ser Gln
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 Lys Ser Val Gln Gln Glu Gln Gln His Asn Val
 20 25

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20 25 30
Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys Glu Lys Leu Gln
35 40 45
Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu
50 55 60
Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys
65 70 75 80
Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg Leu Ala Lys Glu
85 90 95
Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys
100 105 110
Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
115 120 125
Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu
130 135 140
Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg
145 150 155 160
Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu
165 170 175
Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln
180 185 190
Glu Arg Arg Ala Lys Glu Lys Leu Gln Glu Gln Gln Arg Asp Leu Glu
195 200 205
Gln Arg Lys Ala Asp Thr Lys Lys Asn Leu Glu Arg Lys Lys Glu His
210 215 220
Gly Asp Ile Leu Ala Glu Asp Leu Tyr Gly Arg Leu Glu Ile Pro Ala
225 230 235 240
Ile Glu Leu Pro Ser Glu Asn Glu Arg Gly Tyr Tyr Ile Pro His Gln
245 250 255
Ser Ser Leu Pro Gln Asp Asn Arg Gly Asn Ser Arg Asp Ser Lys Glu
260 265 270
Ile Ser Ile Ile Glu Lys Thr Asn Arg Glu Ser Ile Thr Thr Asn Val
275 280 285
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305 310 315

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aagaaaagtt gcaagaacaa caaagcgatt tagaacaaga gagacgtgct aaagaaaagt 600
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gaaaaaagga acatggagat atattagcag aggatttata tggctcgttta gaaataaccag 720
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agtgttcaac aagaacaaca acacaatgtt gaagaaaaag ttgaagaaag ttagaagaa 180
aatgacgaag aaagtgtaga agaaaatgta gaagaaaatg tagaagaaaa tgacgacgga 240
agtgtagcct caagtgttga agaaagtata gcttcaagtg ttgatgaaag tatagattca 300
agtattgaag aaaatgtagc tccaactgtt gaagaaatcg tagctccaac tgttgaagaa 360
attgtagctc caagtgttgt agaaaagtgt gctccaagtg ttgaagaaag ttagactcca 420
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<400> 36
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ttg ata ttt cat ata aat gga aag ata ata aag aat tct gaa aaa gat 96
 Leu Ile Phe His Ile Asn Gly Lys Ile Ile Lys Asn Ser Glu Lys Asp
 20 25 30

gaa atc ata aaa tct aac ttg aga agt ggt tct tca aat tct agg aat 144
 Glu Ile Ile Lys Ser Asn Leu Arg Ser Gly Ser Ser Asn Ser Arg Asn
 35 40 45

cga ata aat gag gaa aat cac gag aag aaa cac gtt tta tct cat aat 192
 Arg Ile Asn Glu Glu Asn His Glu Lys Lys His Val Leu Ser His Asn
 50 55 60

tca tat gag aaa act aaa aat aat gaa aat aat aaa ttt ttc gat aag 240
 Ser Tyr Glu Lys Thr Lys Asn Asn Glu Asn Asn Lys Phe Phe Asp Lys
 65 70 75 80

gat aaa gag tta acg atg tct aat gta aaa aat gtg tca caa aca aat 288
 Asp Lys Glu Leu Thr Met Ser Asn Val Lys Asn Val Ser Gln Thr Asn
 85 90 95

ttc aaa agt ctt tta aga aat ctt ggt gtt tca gag aat ata ttc ctt 336
 Phe Lys Ser Leu Leu Arg Asn Leu Gly Val Ser Glu Asn Ile Phe Leu
 100 105 110

aaa gaa aat aaa tta aat aag gaa ggg aaa tta att gaa cac ata ata 384
 Lys Glu Asn Lys Leu Asn Lys Glu Gly Lys Leu Ile Glu His Ile Ile
 115 120 125

aat gat gat gac gat aaa aaa aaa tat att aaa ggg caa gac gaa aac 432
 Asn Asp Asp Asp Asp Lys Lys Lys Tyr Ile Lys Gly Gln Asp Glu Asn
 130 135 140

aga caa gaa gat ctt gaa gaa aaa gca gct aaa gaa aag tta cag ggg 480
 Arg Gln Glu Asp Leu Glu Glu Lys Ala Ala Lys Glu Lys Leu Gln Gly
 145 150 155 160

caa caa agc gat tca gaa caa gag aga cgt gct aaa gaa aag ttg caa 528
 Gln Gln Ser Asp Ser Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln
 165 170 175

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caa	gaa	caa	caa	agc	gat	tta	gaa	caa	gag	aga	cgt	gct	aaa	gaa	aag	624
Gln	Glu	Gln	Gln	Ser	Asp	Leu	Glu	Gln	Glu	Arg	Arg	Ala	Lys	Glu	Lys	
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 Glu Ile Ile Lys Ser Asn Leu Arg Ser Gly Ser Ser Asn Ser Arg Asn
 35 40 45
 Arg Ile Asn Glu Glu Asn His Glu Lys Lys His Val Leu Ser His Asn
 50 55 60
 Ser Tyr Glu Lys Thr Lys Asn Asn Glu Asn Asn Lys Phe Phe Asp Lys
 65 70 75 80
 Asp Lys Glu Leu Thr Met Ser Asn Val Lys Asn Val Ser Gln Thr Asn
 85 90 95

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Phe Lys Ser Leu Leu Arg Asn Leu Gly Val Ser Glu Asn Ile Phe Leu
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Lys Glu Asn Lys Leu Asn Lys Glu Gly Lys Leu Ile Glu His Ile Ile
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130 135 140
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145 150 155 160
Gln Gln Ser Asp Ser Glu Gln Glu Arg Arg Ala Lys Glu Lys Leu Gln
165 170 175
Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys Glu Lys Leu
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Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys Glu Lys
195 200 205
Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Leu Ala Lys Glu
210 215 220
Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala Lys
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Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
245 250 255
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ataccagcta	tagaacttcc	atcagaaaat	gaacgtggat	attatatacc	acatcaatct	780
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gacatacaaa atcatacatt agagacagta aatatttctg atgttaatga ttttcaaata 1020
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gatgatgaag acttagacga atttaagcct attgtgcaat atgacaattt ccaagatgaa 1140
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aag tta caa gag cag caa agc gat tta gaa caa gag aga ctt gct aaa 144
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 35 40 45

gaa aag ttg caa gaa caa caa agc gat cta gaa caa gag aga cgt gct 192
 Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg Ala
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aaa gaa aag ttg caa gaa caa caa agc gat tta gaa caa gag aga cgt 240
 Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg
 65 70 75 80

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 Ala Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Asp Arg
 85 90 95

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 Page 20

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gga Gly 385	att Ile	tat Tyr	aaa Lys	gaa Glu	cta Leu 390	gaa Glu	gat Asp	ttg Leu	ata Ile	gag Glu 395	aaa Lys	aat Asn	gaa Glu	aat Asn	tta Leu 400	1200
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 85 90 95

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 260 265 270
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Lys Glu Lys Leu Gln Glu Gln Gln Ser Asp Leu Glu Gln Glu Arg Arg
65 70 75 80
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Asp	Ser	Lys	Glu	Ile	Ser	Ile	Ile	Glu	Lys	Thr	Asn	Arg	Glu	Ser	Ile	
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10830118.txt

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<212> PRT

<213> Plasmodium falciparum

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Gln	Glu	Arg	Leu	Ala	Lys	Glu	Lys	Leu	Gln	Glu	Gln	Gln	Ser	Asp	Leu				
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Gly	Ile	Tyr	Lys	Glu	Leu	Glu	Asp	Leu	Ile	Glu	Lys	Asn	Glu	Asn	Leu				
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 Phe Lys Pro Asn Asp Lys Ser Leu Tyr Asp Glu His Ile Lys Lys Tyr
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 Lys Asn Asp Lys Gln Val Asn Lys Glu Lys Glu Lys Phe Ile Lys Ser
 450 455 460
 Leu Phe His Ile Phe Asp Gly Asp Asn Glu Ile Leu Gln Ile Val Asp
 465 470 475 480
 Glu Leu Ser Glu Asp Ile Thr Lys Tyr Phe Met Lys Leu
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